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January 15, 2019

Ms. Bridget Bohac
Office of the Chief Clerk, MC-105
Texas Commission on Environmental Quality
PO Box 13087
Austin, TX 78711-3087

Re: TCEQ Industrial Wastewater Discharge NORI for Permit Number WQ0005253000

Dear Ms. Bohac:

The Texas Parks and Wildlife Department (TPWD) appreciates the opportunity to provide comment on the application for the proposed Texas Pollutant Discharge Elimination System (TPDES) industrial wastewater discharge permit for Port of Corpus Christi Authority of Nueces County. (Permit No. WQ0005253000). TPWD is the agency with primary responsibility for protecting the state's fish and wildlife resources (Texas Parks and Wildlife Code §12.0011(a)) in addition to encouraging outdoor recreation on Texas water resources. With respect to this role, we are concerned about water quality for fish and wildlife. Additionally, we are charged with providing information on fish and wildlife resources to any local, state, and federal agencies or private organizations that make decisions affecting those resources (Texas Parks and Wildlife Code §12.0011(b)(3)). Please be aware that a written response to a TPWD recommendation for informational comment received by a state government agency may be required by state law. For further guidance, please see Texas Parks & Wildlife Code Section 12.0011.

In light of the statutory mandate, we have reviewed the aforementioned TPDES draft permit and offer our comments in addition to the comments provided on August 24, 2018.

Because marine organisms have complex life cycles and habitat requirements, TPWD emphasizes the importance of passes connecting Texas estuaries with the Gulf of Mexico. Estuaries are among the most productive natural systems and are important nursery areas that provide specific salinities to complete development phases, refuge from predation, and are sources of food for many species (Patillo et al. 1997). Many aquatic species including Gulf Menhaden, flounder, red drum, shrimp, blue crab, and green sea turtles utilize major and minor coastal passes to reach habitats or food sources required during their various life stages (Nelson 1992, Patillo et al. 1997, Renaud et al. 1995).

Wastewater Discharge Concerns

As stated in the TCEQ's Technical Summary and Executive Director's Preliminary Decision, "The effluent will be discharged via pipe directly to Corpus Christi Bay in Segment No. 2481 of the Bays and Estuaries. The designated uses for Segment No. 2481 are primary contact recreation, exceptional aquatic life use, and oyster waters. The effluent limits in the draft permit will maintain and protect the existing instream uses. All determinations are preliminary and subject to additional review and revisions." As there are no effluent limits presented in the draft permit, it is unclear how this permit will be protective of existing instream uses. TPWD requests information on what the expected effluent concentrations are for Total Suspended Solids, Chloride, Sulfate, and Total Dissolved Solids (TDS).

TPWD continues to have significant concerns about the project's location within a major pass, specifically with the placement of the outfall location and the potential impacts on migrating juvenile and larval marine organisms (including commercially and recreationally important species such as shrimp, crabs, red drum, flounder etc.). While TPWD understands there are no water quality standards for TDS, Chloride, or Sulfate in marine waters, without knowing the expected concentration of these constituents in the effluent, the possible effects on larval finfish and shellfish in the area of the discharge is unknown. TPWD fisheries experts do anticipate that larval stages of marine life passing directly through the plume will experience stress to some degree. Larval stages of any marine life are less resilient to abrupt changes in water quality and without knowing specific concentrations, it is not accurate to state that there will be no impacts to aquatic life. An additional concern is that while the plume from the outfall is predicted to have an isolated effect on water quality according to the CORMIX model, during spawning seasons there will be a constant incoming train of larval marine life moving over a fixed point of discharge on an incoming tide. This results in a situation where larvae are being exposed to the discharge in a conveyor belt-type scenario.

In addition to the lack of specific concentrations expected for TDS, Chloride, or Sulfate specified in the draft permit, TPWD is also concerned with the potential toxicity to larval and juvenile aquatic life from the effluent in the mixing zone. TPWD understands that there are various regulatory reasons why this facility would be exempt from Whole Effluent Toxicity (WET) testing requirements especially when toxicity due to TDS is from dissolved salts in the source water. However, due to the immense nature of this effluent both in terms of volume and salinity concentrations as well as the sensitive nature of many species of juvenile and larval organisms that congregate in this area during various times of the year, TPWD requests the applicant conduct voluntary WET testing as specified in the TCEQ's Procedures to Implement the Texas Surface Water Quality Standards in order to clearly demonstrate to stakeholders the contention that there are no deleterious effects from this effluent to aquatic life.

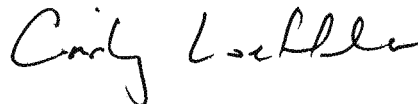
Marine Water Intake Concerns

In addition to concerns with the outfall location and the effects of unknown concentrations of TDS and other constituents on sensitive aquatic life, there are also concerns with the intake process as explained in the draft permit. The draft permit states that "Seawater will be drawn into the plant from a channel adjacent to Harbor Island through coarse screens that will keep large material from entering the pretreatment processes. The screen will reject captured solids as industrial solid waste into a dumpster and will be sent off-site for disposal." As stated, this is not protective to prevent impingement and entrainment (I&E) of larval and juvenile stages of most aquatic life. TPWD recommends the following and requests that the permit applicant provides detailed information to TPWD on the nature of the intake structures and processes:

- diversions of marine seawater should not exceed flow-through velocities of 0.5 feet per second (fps), nor be co-located such that combined impacts in the surrounding approach area exceeds 0.5 fps;
- intake structure design should adjust or adaptively manage with varying flows and water quality that may occur at the intake site;
- intake structures should be designed to reduce the flow velocity so that marine organisms may escape being drawn into the intake;
- screens or booms, or both, should be used to exclude organisms from the intake; and a site-specific study of conditions at proposed intake locations be conducted to identify marine organisms at risk from intake operations and to inform the design planning process.

TPWD requests that these comments be considered with respect to this draft permit. We appreciate the opportunity to offer comment and will continue to work with TCEQ, the applicant, and other stakeholders on this matter. If you have questions or need more information, please contact me at cindy.loeffler@tpwd.texas.gov or (512) 389-8715. Thank you again for the opportunity to comment and for the opportunity to work collaboratively with you and your colleagues to conserve and protect Texas' valued aquatic resources.

Sincerely,



Cindy Loeffler
Water Resources Branch Chief

CL:ARH:ms

cc: Ms. Anne Rogers Harrison
Mr. James Murphy

Mr. Alex Nunez
Mr. James Tolan
Mr. Perry Trial
Mr. Brian Bartram

References:

Nelson, D.M. (editor). 1992. Distribution and abundance of fishes and invertebrates in Gulf of Mexico estuaries, Volume I: data summaries. ELMR Rep. No. 10. NOAA/NOS Strategic Environmental Assessments Division, Rockville, MD. 273 p.

Patillo, M.E., T.E. Czapla, D.M. Nelson, and M.E. Monaco. 1997. Distribution and abundance of fishes and invertebrates in Gulf of Mexico estuaries, Volume II: Species life history summaries. ELMR Rep. No. 11. NOAA/NOS Strategic Environmental Assessments Division, Silver Spring, MD. 377p.

Renaud, Maurice L., J. Carpenter, and J. Williams. 1995. Activities of juvenile green turtles, *Chelonia mydas*, at a jettied pass in South Texas. Fishery Bulletin 93(3):586-593. U.S. Department of Commerce, NMFS Scientific Publications Office. Available online: <https://www.st.nmfs.noaa.gov/spo/FishBull/933/933toc.htm>. Accessed July 2018.